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FIELD MEETING AT EAST GLOUCESTER, THURSDAY, JUNE 29th, 1871.

THE RAMBLE.

COMING from its first Field Meeting at Wenham Lake and its shores, to the ocean about Cape Ann, from the placid waters of an inland lake, surrounded by woods and fertile fields, to look upon the restless Atlantic, sending its waves against a rocky coast, the disciples of the Institute were subjected to a contrast whose influence even if unrecognized must have been beneficially felt. The morning threatening rain had suggested disappointment, so the reappearance of a clear sky added its exhilaration to the ramblers.

Of the two hundred and more who came from Salem and vicinity to participate in the day's search for instruction, all seemed more than usually interested in the natural features of the region visited.

From the rendezvous at the Baptist church the party proceeded in different directions on their explorations. Some accepting the courteous invitation of Thomas Niles, Esq., went to the inner side of the Point, visiting what

is known as Eastern Point Farm, the adjacent beach, and the light house, the beauty of the locality abundantly rewarding the pedestrian effort. Others passed over the ridge of the promontory to the seaward side, where rugged rocks echoing the beat of the waves, and surrounded by the foaming surf, contrasted sharply with the quiet wash of the waters upon the beach at the inner shore.

At this spot, known as "Bass Rocks," was much material to weave into entertaining fancies. The sheltered ledges formed here a cave worthy of, and naturally fitted with, some thrilling legend. The waves which broke at its entrance sounded as from some distant sea, hinting that concerning this cavern they had a tale to tell of events far remote in the past; there a marvellous passage-way through solid granite, with irregular steps of trap rock from the water's edge to the summit of a granite boulder, suggested ascending and descending Indian braves, or smugglers bending beneath the weight of mysterious bundles, or more picturesque pirates with wild faces, untrimmed beards, and a small arsenal of horrifying weapons worn at their belts, each using at times this flight of natural steps as their ladder to fortune. If such events were realities instead of fancies, the name "trap" rock might have a moral as well as a mineralogical significance. At another point was a natural stone basin, whose picturesque interior, massive setting, grand surroundings, clear water, large number and variety of living occupants, constituted a royal aquarium — one of Neptune's adornments of the approaches to his territory. In most aquaria one thinks of the peril of the animals from the owner's lack of skill, or his negligence to keep the waters clear, or to observe the conditions of marine life. You fear lest the beautiful form of life you see to-

day, may mysteriously take on the repulsive appearance of death to-morrow. But here where twice each day the whole Atlantic lifts her waters, enfolds this nursling sea, washes its sides with sparkling water, and resupplies its wants with nourishing streams from her own bosom, one always expects to find vigorous life, refreshing to look upon. Nor is the expectation disappointed. Bright colored shells pave the floor of the basin with a rich mosaic. Sea anemones cover the roughness of the rocks with their base, unfold their soft tints, and wave their tufted crown of tentacles gracefully to and fro. Branching sea-sponges spring from the interstices of the rocks. The rays of the star-fish peep through the sea-plants, beneath whose growth lie many marine animals in partial concealment. Through the meshes of the weeds one can see the hermit-crabs dragging their second-hand houses across the miniature highways of this marine township, reminding one of the frequent migrations of the ancient buildings of Salem when they fall into the hands of speculators. Now and then a crab bustles actively across an open space, then disappears beneath a thick growth of confervæ, which he agitates by his continued movements, and makes you think that the concealed regions of this watery district must be even more densely populated than that which lies open to the sun.

The party spent much time in studying this beautiful assemblage of representatives of ocean's inhabitants which here in so rare a manner presented themselves for examination.

Some of the residents of East Gloucester whose means enabled them to give visible form to the ideas of beauty which such natural features must suggest, invited some of our party to visit their residences along the shore, where the combination of tastefully kept grounds about a coun-

try house both in keeping with the surrounding country, together with a magnificent sea-view, gave the visitors great pleasure.

The time for the ramble seemed too brief. The different sections of the party came tardily together for the collation, appointed at the church vestry at one o'clock. But the zest for active labor begotten by the morning's enjoyments enabled all to perform the duty of the hour.

The meeting was called to order at 2.30 P. M., the President in the chair.

Records of preceding meeting read.

The Secretary announced the following correspondence :—

From Frankfurt, a. M., Senckenbergische Naturforschende Gesellschaft, Dec., 31, 1870; New Brunswick Natural History Society, June 15; New York Lyceum of Natural History, June 26; Smithsonian Institution, June 22; Wien, K. K. Zool, Botan. Gesellschaft, Feb.; James S. Bryant, Hartford, Conn., June 15; W. H. Yeomans, Columbia, Conn., June 14.

THE LIBRARIAN reported the following additions :—

By Donations.

BRYANT, W. S., of Hartford, Conn. Hartford Directory, 1828. 1 vol. 16mo.

CLOGSTON, WM., of Springfield. Directories—Kingston and Rondout, 1869-70, 1 vol. 8vo. Utica, 1865, 1 vol. 8vo. Schenectady, 1865, 1 vol. 8vo. Rome, 1870, 1 vol. 8vo. Oswego, 1866-7, 1 vol. 8vo. Boonville, 1868, 1 vol. 12mo. Malone and Franklin County, 1868-9, 1 vol. 12mo. Lowville, 1867-8, 1 vol. 12mo. Carthage, 1867-8, 1 vol. 12mo. Rome and Oneida County, 1859-60, 1 vol. 12mo. Watertown, 1867-8, 1 vol. 12mo.

FOLGER, W. C., of Nantucket. Reports of the towns of Cohasset, Scituate and Marshfield for 1870-71. 8vo pamphlets.

GREEN, S. A., of Boston. Revised Gospel of St. Mark. 1 vol. 12mo. Miscellaneous pamphlets, 24.

TUCKER., W. P. Diocese of California. 8vo pamphlets. 1871.

By Exchange.

BOTANISK TIDSSKRIFT KJÖBENHAVN. Tidsskrift, Fjaerde Binds, Andet and Forste Haefte. 2 pamphlets, 8vo. 1871.

KONGELIGE DANSKE VIDENSKABERNES SELSKABS. Oversigt, 1870. No. II. 8vo pamph. Kjöbenhavn.

K. K. ZOOLOGISCH—BOTANISCHE GESELLSCHAFT IN WEIN. Verhandlungen, Band XX. Heft 1-4 1870. 8vo pamphlets.

MASSACHUSETTS HISTORICAL SOCIETY. Collections. Vol. I. Fifth Series, 1 vol. 8vo. Boston. 1871.

MERCANTILE LIBRARY ASSOCIATION, Boston. Fifty-first Annual Report. 8vo pamph. 1871.

NATURHISTORISCHE GESELLSCHAFT IN HANNOVER. Bwanzigfter, 4to pamph. 1869-70.

NEW ENGLAND HISTORIC-GENEALOGICAL SOCIETY. Register and Journal, July, 1871.

PEABODY INSTITUTE, Baltimore, Md. Fourth Annual Report of the Provost to the Trustees, June 1, 1871.

ROYAL SOCIETY OF TASMANIA. Monthly Notices of Papers and Proceedings for 1868-9.

SENCKENBERGESCHE NATURFORSCHENDE GESELLSCHAFT. Abhandlungen, Siebenter. Bd. 1869-70. 4to pamph. Bericht, June, 1869. June, 1870.

VEREIN ZUR VERBREITUNG NATURWISSENSCHAFTLICHER KENNTNISSE IN WIEN. Schriften, Vols. IX, X. 1868-70.

YEOMANS W. H., of Columbia, Conn. Report of the Connecticut Board of Agriculture for 1869. 1 vol. 8vo. Miscellaneous pamphlets, 37.

PUBLISHERS. Gloucester Telegraph. Haverhill Gazette. Land and Water. Lawrence American. Little Giant. Lynn Reporter. Lynn Transcript. Medical and Surgical Reporter. Nation. Nature. Peabody Press. Salem Observer.

THE PRESIDENT referred briefly to the connection between Gloucester and Salem in their early history, and said that this town was of historical interest to many present, in the fact that the early settlers at Salem came first to Gloucester, and resided about two years before taking up the more permanent abode with which they became subsequently identified. He called upon Mr. George D. Phippen of Salem to speak upon

THE FLOWERS COLLECTED.

MR. PHIPPEN commenced by saying that he was reminded of a former officer of the Institute, who, when called upon to speak on an occasion similar to this, commenced his remarks with the familiar quotation, "What went ye out into the wilderness for to see?" While we may not designate this region by such an appellation, it is always our desire on occasions like this to visit the wildest locations of the neighborhood, in order that our collections may be the more rich and rare; even a "reed

shaken by the wind" becomes an agreeable sight to one coming from the dusty streets of the city.

The flowers upon the table, not collected by my own hand, suggest the shady coppice, as well as the rocky promontory, and the sandy shore. Among which are the arethusa, the dwarf laurel, the iris, the cranberry, the anagallis, the calestegia or wild morning glory, and many others which under specific names were assigned to their proper group in the natural arrangement, the only classification at this late day worthy of consideration. The most peculiar specimens presented were the full blown heads of the yellow thistle, Cirsium horridulum, new to most of the party, but not uncommon in many sandy localities near the sea. Notwithstanding its forbidding prickles, which gave rise to its specific name, several ladies present, impressed with its novel beauty, plucked large bunches of its showy blossoms with which to embellish their vases at home, hitherto filled with the more delicate products of the green house and flower border.

It is presumed to be generally understood that all the beautiful plants of our gardens and conservatories were once wild, — the cultivated offspring of ruder and more simple types; our own country meanwhile furnishing to other nations many an exotic of rare worth and beauty, and quite as highly prized as any of theirs are to us.

This splendid array of ornamental plants now so accessible, and with which many of our gardens are richly stocked, is the result of many long years of cultivation, with changes and mutations induced or retained by the hand of man, and generally at the expense of what may be called the integrity of the plant, that is, more or less to the sacrifice of its vital and generative forces. Many plants with such an origin, though extremely ornamental

or useful to us, are most carefully propagated by cuttings, and are in fact but the assiduous multiplication or rather prolongation of the same individual life, which is not the case with plants of a more primitive type, that consequently are freely propagated by their own prolific seed.

This we understand to be one phase of the high mission of man while a denizen upon the earth, to exercise the noble privilege of subduing all things unto the best wishes and purposes of his race, having this promise ever before us taught by science as well by our sublime religion, that by seeking we shall find, by knocking it shall be opened unto us; a sure reward sooner or later always repaying the patient investigator.

It therefore becomes not irreverent to declare that in a certain sense and in a delegated manner man is a creator, calling into being forms that without his aid might never exist.

The grains and edible roots so indispensible to man and the lower animals are so few as to be "almost counted upon the fingers" but in their varieties are almost endless; while many of them in a primitive wild state can no longer be found upon the earth. Much the same is it with the fruits proper, and while this has been so long true, there still remains unknown and unappropriated hundreds of plants capable of yielding both food and ornamentation, that still remain in the wilds of the earth just as they came from the great Creator's hand, simple and undeveloped.

When we allude to the plants of the garden and greenhouse, how few of the large number do we find well understood in their possible modifications and whose manifest changes scarcely ever weary us. If this developed few in their numerous varieties were taken from their places on the shelves and in the borders, our gardens would be bare indeed.

The botanist and the florist, though sometimes combined in the same individual, possess severally elements of knowledge and taste of great divergency, the former always looking with jealousy upon the labors of the latter; knowing well that the doubling of flowers and the variegation of the foliage of plants are accidents or innovations more or less destructive to plant vitality and the purity of the species.

The tendency of reversion to primitive types is so well understood that no florist can keep a fine selection of rarities without the most careful destruction of *rogues* among his plants, and the most diligent *strain* of his seeds. Upon a cessation of this care these varieties fall back year by year with considerable rapidity to their primitive species or type.

In our day, varieties seem to be almost manufactured to order, be the caprice of the market what it may. Who has not been surprised as well as delighted by the rapid increase of plants of different genera and species, adorned with particolored foliage, some of which, like the zonale geraniums, taking on hues like the rainbow, and vieing even the plumage of birds. The rapidity and seeming spontaneity of these changes must to the ordinary observer be puzzling indeed.

Though we have claimed these as the product of the hand of man, it is more nearly like retaining the angel till he blesses us, rather than calling him from the skies.

It is not uncommon to find similar accidental forms even among wild plants in their native abodes, as we can bear witness, having found double mountain laurel, striped cardinal flower, yellow columbine, quilled whiteweed, linear petaled œnothera, double saxifrage and many others not readily called to memory.

Albinos and stripes among the green spray of the natu-

ral foliage often occur, which might be retained and made permanent by bud grafting. From such accidents as these it is, that the florist moulds his novelties, being careful to intensify the derivation by grafting, by slipping, or by seeding the plant and watching its offspring.

Much might be said of the numerous hybrids that may be produced by a judicious crossing of near affinities, and pressing each novel tendency till it becomes intensified and fixed by breeding, requiring perhaps several generations.

Deviations are much more likely to occur among plants under cultivation than those in a natural state.

The readiest change for a plant to make is in the color of its blossom, otherwise plants vary chiefly in the direction of their prominent peculiarity, or that of prospective usefulness; selection, both natural and applied, tending to the same end. With the edible roots, we may expect improvement in that direction, with fruits, in their enlargement and the luscious quality of their flesh, with flowers, in the multiplication of their petals, or in changes of their hues. Neither the fairest apple nor the richest pear has yet been attained; and the most fragrant rose and most gorgeous lily are still in reserve for the gratification of the taste of man.

When we remember the almost endless changes that a few years since were produced from the simple scarlet eight-petaled dahlia of Mexico, or with the kingly robes of the lily and tulip, with multiplications of the rose, the peony, the fuchsia, the petunia, the verbena, etc., we are apt to feel in their abundance, that the climax has been achieved; but to all whose taste seeks continued gratification we may say with confidence, and that without treading upon ground appropriated by Darwin or hastening to his conclusions, that there is absolutely no end to the de-

velopment and mutability of all that is excellent for food or gratifying to our taste of the beautiful, among the vast array of the species that compose the Vegetable Kingdom.

Mr. James H. Emerton of Salem spoke of the insects collected in the morning's ramble, among them some specimens of the lace winged fly (*Chrysopa*) and its eggs, which had been found attached to grass leaves from a field near the shore, each egg raised upon a hair-like stem. The young larvæ of this fly and the structure of their mouths, by which they are enabled to suck the juices of insects without eating the solid parts, were described, with illustrations on the black-board.

He then passed around among the audience some sixty spiders and several cocoons of spider's eggs, which had been collected in the morning, and made some remarks on them, and the growth of spiders in the egg.

Rev. J. H. Gannett of East Gloucester alluded to the appearance of this village as he saw it from the deck of a vessel in the harbor some twenty-four years since, and gave a very interesting sketch of its growth, and of the church in which this meeting was held.

History of the Baptist Church in East Gloucester.

The first Baptist meeting of which there is any recollection in East Gloucester, was held about thirty years ago, the Rev. William Lamson, pastor of the Baptist church in the town of Gloucester, and now pastor of the Baptist church in the town of Brookline, Mass., preaching to a very few persons in a small building used for a school house.

From this date it appears that they continued to hold

meetings from time to time, convening with the various families and members who worshipped on the Sabbath with Bro. Lamson's church.

East Gloucester at this time was very sparsely settled, but as business increased, dwelling houses were rapidly erected, stores were opened, school houses were built. The friends of Zion feeling called upon to make an organized effort for the moral and spiritual good of their growing village, a union sewing circle was formed; but it being ascertained that the prevailing sentiment was Baptist, it was decided to erect a chapel.

In the year 1858 a small building was erected 50 feet by 36. It was dedicated the fall of the same year, the sermon being preached by William Lamson, D. D., text, Joshua, v: 15.

Previously (in 1855) there had been a small Sabbath school organized in the village and held in the hall of the engine house, and also one on what is known as Rocky Neck. This school met in the house of Bro. David Smith, and was under the charge of Sister Susan E. Wonson.

As soon as the chapel was dedicated and opened for meeting, these schools were transferred to this place and given in charge to Bro. Geo. Parsons, who is still the superintendent.

At first the people were supplied with preaching by different persons occupying the desk. In 1858 Father Lisle was invited to become their preacher (we cannot say pastor, for this enterprise was nothing more than a branch interest—a mission of the first Baptist church.)

In 1861 Bro. Cheever of Manchester was invited to assist Bro. Lisle in a series of meetings. A powerful reformation followed, but there being no church organization most of the converts joined other churches.

Father Lisle left, and in the spring of 1863 the society

invited the Rev. Andrew Dunn to supply the desk. In July of the same year (63) a council was convened to consider the propriety of organizing a church (an independent society). After a satisfactory examination a church was constituted, composed of fifty-six members. Two deacons were chosen, viz.: Brethren Geo. Parsons and Herbert Stanley who still serve the church. Bro. Dunn stayed with them as their pastor for four years, then resigned.

The infant church in the spring of 1867 sent to the Theological Institute at Newton, for a candidate, whereupon a young man by the name of J. H. Gannett was sent them, to whom the church and society extended a call to the pastorate. He accepted, and entered the work August 1st, 1867, receiving ordination the 22d of the same month, Rev. G. Cole of Weymouth preaching the sermon.

The church for years had been in a low condition, and was still, the Sabbath school few in numbers, sadly in want of efficient teachers, and entirely destitute of library books. During the following winter (1867–68) one hundred dollars expended in books supplied the school with a good library. This seemed to be the only movement manifested for the better — the meeting continuing dull, the preaching powerless. Our village had increased in population and now numbered about 1500, and it seemed expedient to have a larger place for worship.

The building was raised ten feet, lengthened about twenty-five, a vestry was finished under the entire length, and a spire of seventy-five feet added. Eighty pews were placed in the auditorium, the settees being moved into the vestry below. The entire expense was about $5,000. About $3,000 of it was raised, leaving the society in debt $2,000; the following year $1,000 of this

was paid and the remaining $1,000 now stands as a debt against the society. On the 3d of Feb., 1869, the house was dedicated to the service of Almighty God, William Lamson D. D., of Brookline, preaching the sermon. Text "The tree is known by his fruit."

The pews were rented to pay the necessary running expenses (all monies being formerly raised by subscriptions) and instead of $500 or $600, as in previous years, the rentals amounted to $1,600. The congregation was very much increased, and the whole enterprise received a stimulus.

In January, 1870, a series of meetings were commenced, Bro. Needham, the Irish Evangelist, preaching a few times — which resulted in a powerful awakening. The large vestry was filled to overflowing, night after night — souls were constantly inquiring "what shall I do to be saved?" — others were rejoicing in a newly found Redeemer.

This interest lasted till late in the spring, when the pastor had the joyful privilege of leading into the baptismal waters seventy-four happy converts — ten others were received by letter and experience.

The present number is one hundred and forty-eight. The church has two deacons. Only two pastors have ministered at her altar, Bro. Dunn and the present incumbent.

The ladies of this society have assisted very largely in the support of this enterprise. They have furnished the house throughout, besides placing a good organ in the orchestra.

Our village now numbers 2,100, and we need a still larger house for worship. May the Lord furnish one in his own good time. The church will be nine years old July 13th, 1872.

Mr. Gannett also spoke of the geology of the Cape, and expressed the hope that if there were any present interested in that direction they would open these hard leaflets and read the tables written there by the hand of God. We have on Massachusetts' southern shore a long, sandy beach called Cape Cod, and here on the other side of the bay is a rocky cape. The southern shore is changed by the waves, but these rocks for years have remained the same.

The PRESIDENT stated that the geology of this county was a problem not yet satisfactorily solved. The attention of Prof. T. Sterry Hunt of the Canadian survey and other geologists has been directed to this subject, and these gentlemen will give it a careful consideration. Prof. A. Hyatt, a member of the Institute, is collecting materials for a report on this subject. At a meeting of the Institute, a few weeks since, he exhibited a beautifully executed map of Marblehead Neck, and gave the results of his observations in that locality and its immediate vicinity. It is intended to continue these observations each successive season, until the whole county has been examined; thus we may expect, ere the lapse of many years, to have the materials for the long desired report on the geology of the county ready for the press, with correct maps illustrating the same.

THE STUDY OF THE LOWER FORMS OF LIFE.

Concerning the plate containing sixty varieties of spiders, captured and commented upon by Mr. James H. Emerton, Dr. A. H. JOHNSON remarked, that as it had passed from hand to hand through the audience for inspection, possibly the thought had arisen, that to catch and study these little animals is frivolous business — amusing,

perhaps—but hardly profitable. To meet this idea the speaker said that many are unaware that it is through laborious study of the organism and development of the lower animals, that data are obtained to interpret the more complex organization of the human system. Facts obtained by such study, as another has said, "furnish the alphabet which we must learn in order to read the more intricate compositions of nature."

Thus, the human lungs present to the eye a very intricate structure, difficult to explain. But the simpler lungs of the frog, or the transparent lungs of the turtle, show at a glance the general plan upon which the respiratory organs of the higher animals are formed, viz.:—that of a sack or pouch, divided by partitions into numerous chambers or cells, upon whose walls the minute blood vessels form a mesh work, while these cells, by means of a system of tubes, are open to the external air, which they can alternately receive and discharge.

So concerning the circulation of the blood through the capillaries, the transparent web of the frog's foot under the microscope has furnished demonstrations and taught lessons which one might seek in vain in the human system.

One of the lowest forms of animal life is the microscopic amœba, an animal which appears like a mere structureless drop of jelly. Yet it has been seen to assume a great variety of forms by alternate expansions and contractions, to fold itself around and to take into its cavity other animalcules or portions of plants, parts of which it consumed, and other parts rejected as indigestible. Curiously enough, the white corpuscles of the human blood have been seen to imitate the amœba so closely that they have been named amœboid cells. They were first studied by being removed from the circulation, and placed

under the microscope in an artificial serum, while the ordinary animal temperature was preserved as well as possible. But the mesentery of the frog has been found to furnish the best opportunity to watch their movements, and revealed very novel and startling facts concerning their behavior. Here they have been seen to take granular pigment, purposely injected into the veins, into the interior of their bodies, and after bearing it to a greater or less distance through the circulation, to again eject it. Or they have been seen to pass through minute apertures in the capillaries bearing the pigment with them into the surrounding tissues. Owing to these free movements they have been called wandering cells. They suggest an explanation of the agency by means of which diseased action in one portion of the system is sometimes transferred to remote portions of the human frame. It would be impossible to ascertain these facts from an examination of the opaque tissues of the body. Yet they are of immense practical importance. Hence it is a philanthropic work to study the tissues of the smaller animals by means of which such information is obtained.

It has been recently suggested that the Society for the Prevention of Cruelty to Animals should make exertions to put an end to physiological experiments upon the lower animals. Such action will be deprecated by all who would act for the prevention of cruelty to men. For such experiments are still necessary to furnish the knowledge requisite to proper action for the relief of human suffering.